REMARKS

New Claim 19 was added. Claim 18 was cancelled. Claims 2-8, 10-14, 17 and 19 remain in the application. Applicant asserts that no new matter has been added. Reconsideration of the Application is hereby requested

Support for the amendment to Claim 17 and addition of new Claim 19 may be found in the Specification, paragraphs [0026] – [0029], FIG. 4 and throughout the rest of the disclosure.

Claim Rejections

Rejections Under 35 U.S.C. § 103

Claims 2-5, 10-13, 17 and 18 were rejected under 35 U.S.C. § 103(a), as being obvious over Peir et al., in view of Au.

Applicant has cancelled Claim 18, rendering this rejection moot with respect to this claim.

Regarding the remaining claims, Applicant has amended Claim 17 to recite that an L1 data cache loads a non-speculative version of the speculative data load after the loading of the speculative data load and that a circuit inhibits the speculative data load when it is a misprediction and inhibits the non-speculative data load when the speculative data load is not a misprediction. New Claim 19 includes similar limitations.

The invention advantageously speeds up a pipelined processor when the speculative load is a not mispredicted, but continues operation of the pipeline when the speculative load is mispredicted. This is because, if the speculative load turns out to be a misprediction, the non-speculative load will follow it in the pipeline only a few cycles later and no pipeline flush will be required. On the other hand, if the speculative load *is* valid, then the load will execute ahead of the non-speculative load and the non-speculative load will be simply ignored. In this way, the entire pipeline does not need to be flushed when a misprediction occurs, thereby realizing an efficiency improvement in the pipeline.

Peir et al., on the other hand, does not teach or suggest these limitations. In Pier et al., "[w]hen a cache hit is incorrectly predicted … all of the instructions that are scheduled during the speculative window may be cancelled…." (Pier et al., ¶ [0018]) This indicates that the system of Pier et al. requires a cache flush after a misprediction. There is certainly no teaching or suggestion in Pier et al. to feed a non-speculative load into a pipeline a predetermined number of cycles after a corresponding speculative load has been fed into the pipeline to avoid having to flush the pipeline when the speculative load is a misprediction. The addition of Au still does not teach or suggest this limitation. Therefore, Applicant believes that the §103 rejection has been overcome and respectfully requests that it be withdrawn.

CONCLUSION

Applicant believes that the rejections have been overcome for the reasons recited above. Therefore, Applicant respectfully requests that all remaining claims be allowed and that a timely Notice of Allowance be issued.

No addition fees are believed due. However, the Commissioner is hereby authorized to charge any additional fees that may be required, including any necessary extensions of time, which are hereby requested, to Deposit Account No. 503535.

04/25/2007
Date

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